
Comprehensive Care Facilities
Adoption of Health Information Technology
April 2018
MHCC
MARYLAND HEALTH CARE COMMISSION
Robert E. Moffit, PhD, Chair
Ben Steffen, Executive Director

Health Information Technology in Comprehensive Care Facilities

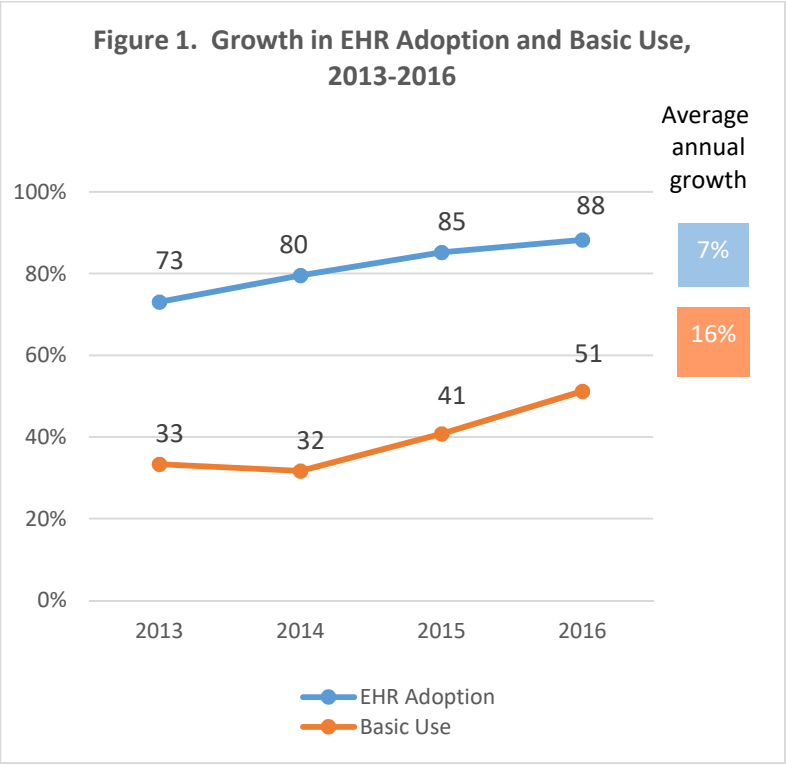
Overview

The health care industry is undergoing a shift in the way care is delivered that incentivizes quality of care rather than quantity of services. Comprehensive Care Facilities (CCFs) typically have residents with complex chronic care needs that can result in frequent transitions between acute-care settings and a CCF. Widespread adoption of health information technology (health IT) among CCFs is essential to improve care transitions, care coordination, and medication reconciliation.[1] CCFs were not included in the 2011 Centers for Medicare & Medicaid Services (CMS), Medicare and Medicaid Electronic Health Record (EHR) Incentive Programs. These programs provided funding for EHR adoption and meaningful use and were limited to eligible professionals and hospitals.[2] CCFs have continued to increase health IT adoption even as most struggle with financial and human resource challenges associated with implementing technology. The survey findings are used by the Maryland Health Care Commission (MHCC) to develop initiatives that foster increased diffusion of health IT among CCFs. The information is also used to build consumer awareness about the benefits of health IT in CCFs.

Approach and Limitations

The MHCC collects data on health IT adoption from CCFs through its *Annual Long Term Care Survey*. The survey includes questions related to EHRs, health information exchange (HIE),[3] and telehealth.[4] The MHCC analyzed data from 2013 to 2016 from more than 200[5] CCFs statewide. Survey findings are based on self-reported data; the professional designation of survey responder varied by CCF. Responses to the survey questions were not audited and may have been influenced by respondents' interpretation and understanding of the questions.

EHR Adoption Growth Wanes as Basic EHR Use Accelerates



EHR adoption among Maryland CCFs has grown slowly over the last four years and exceeds the national adoption rate.[6] Chain and non-chain CCFs are adopting EHRs at similar rates, around 88 percent. Over the last several years, basic EHR use has increased at a faster rate than EHR adoption[7] (Figure 1). CCFs are characterized as basic users when they use a set of seven EHR core functions fundamental to CCFs.[8] During this same time period, basic use among chain and non-chain CCFs has grown at a comparable rate (15 percent and 17 percent respectively).[9]

CCFs are investing more resources in health IT and implementing additional EHR functionalities, such as computerized provider order entry with information on laboratory reports, radiology tests, consultation requests and nursing orders.[10] Successful implementation of these functionalities can improve management of clinical documentation, supporting more informed decision making.[11] Uptake in basic users can also be attributed to expanded reporting requirements. CMS released revisions in February 2015 and July 2016 to the Nursing Home Compare Five Star Quality Rating System.[12] The revisions included more robust standards for Quality Measures to evaluate health care outcomes, patient satisfaction, and quality improvements.[13]

PointClickCare Leading Long-Term Care EHR Vendor in Maryland

Figure 2. Top Four EHR Vendors, 2013-2016

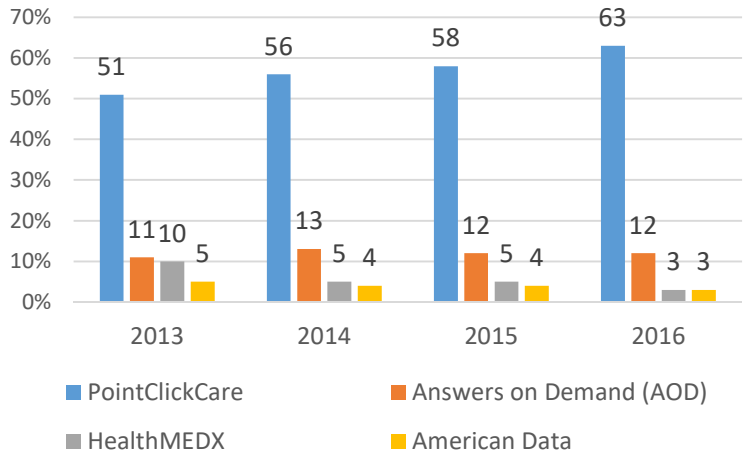
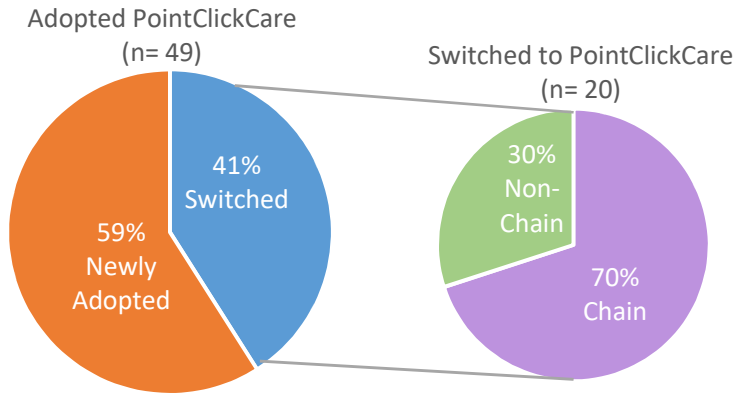


Figure 3. PointClickCare Adoption Trends, 2013-2016

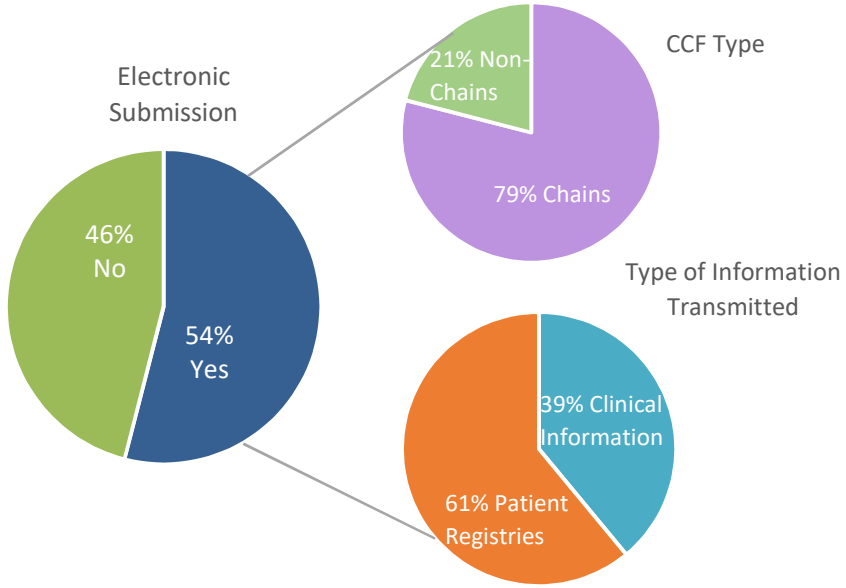


PointClickCare holds the largest market share among CCFs in Maryland, increasing by approximately 12 percent since 2013 (Figure 2). KLAS Research reports PointClickCare performs highly across the nation, ranking 1st in long-term care for its third consecutive year.[14] PointClickCare also meets the Office of the National Coordinator for Health Information Technology (ONC) 2014 certification criteria.[15] Other leading EHR vendors have experienced little change in their market share; all retired their ONC certifications.[16]

Adoption of PointClickCare is more prominent among chain CCFs at 80 percent, in comparison to 39 percent among non-chains. Since 2013, 49 CCFs have adopted PointClickCare, 41 percent switched from another EHR vendor (Figure 3). CCFs that have switched to PointClickCare report improvements in tracking vital resident information, such as condition and medication lists.[17]

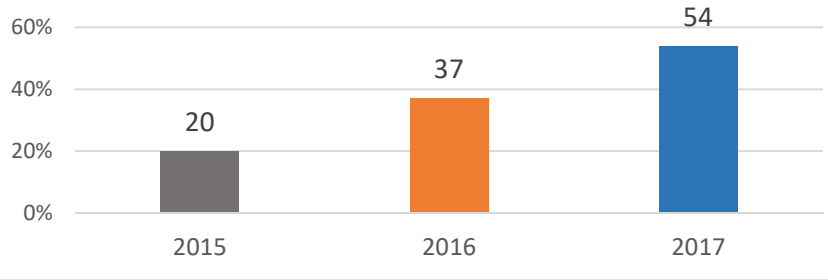
CCF Chains Achieving Greater Rates of Connectivity to CRISP than Non-Chain CCFs

Figure 4. CRISP Connectivity, 2017



Note: Data reported by CRISP as of October 11, 2017.

Figure 5. Electronic Submission to CRISP, 2015-2017



Approximately 54 percent of CCFs electronically send data (Figure 4) to the State-Designated HIE, the Chesapeake Regional Information System for our Patients (CRISP).[18] This is a 19 percent increase from the previous year[19] and exceeds the national rate by approximately 25 percent (Figure 5).[20] More chain CCFs (98) than non-chains (26) are electronically sending information to CRISP (Figure 4). CRISP offers various levels of EHR connectivity to enhance care coordination.[21] In addition, CCFs can electronically send patient lists to CRISP to receive care alerts during transitions of care.[22] About 20 percent of chains are sending some clinical data to CRISP via their EHR systems.[23]

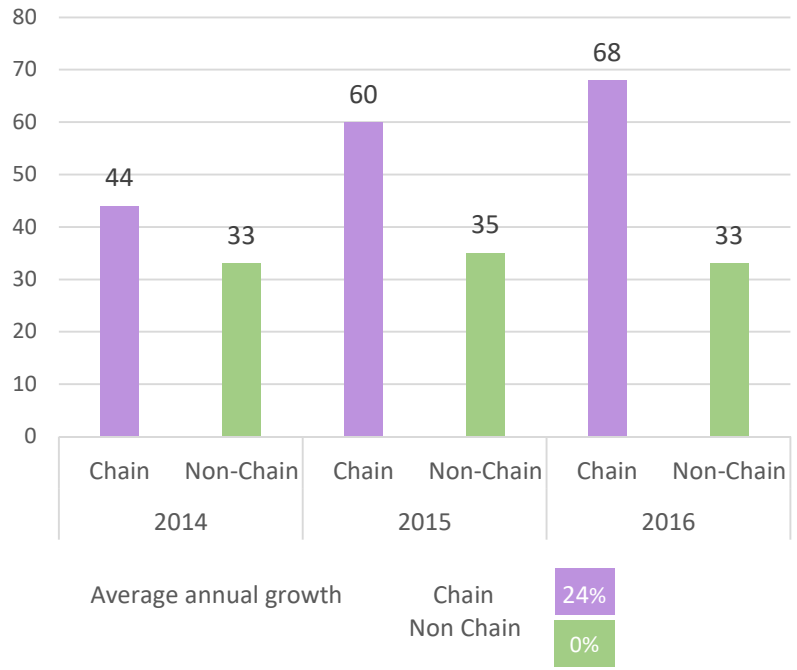
In 2017, Black Book[24] conducted a national survey entitled, *Long Term & Post Acute Care Industry Technology Users*, which included CCFs. Findings showed that 86 percent of CCFs are not exchanging data electronically with referring hospitals and other provider types.[25] Overall, the low rate of HIE connectivity nationally can be attributed to competing priorities. However, CCFs are starting to recognize that investing in health IT is no longer an option, it is an essential requirement to support care delivery.[26]

Chain CCFs Lead in Accessing Data from an HIE

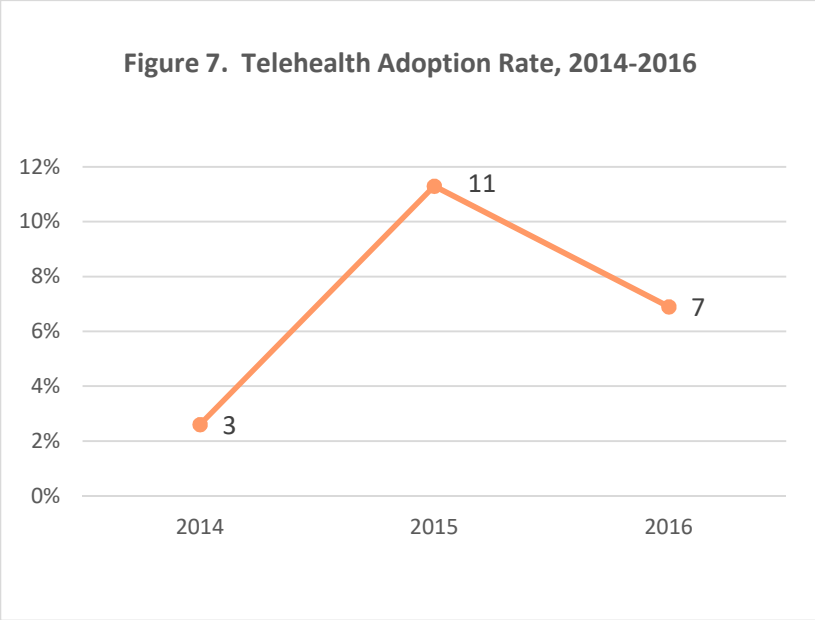
The gap between chain and non-chain CCFs accessing an HIE has grown from 11 to 35 percent since 2014.[27] Some CCFs reported accessing community HIEs, such as Calvert Memorial Hospital and Frederick Memorial Hospital.[28] Most CCFs that participate in HIE use CRISP's patient query portal[29] as opposed to integrating their EHR with CRISP. EHR integration with an HIE is a more advanced health IT capability where data is made available in existing workflows.[30] This connectivity enables more timely access to up-to-date patient information, critical in the prevention of avoidable transitions of care and improving care continuity for patients without requiring the provider to log into a separate system.[31, 32]

The number of non-chains accessing an HIE has remained constant over the last three years. Non-chain CCFs that access an HIE are slightly larger, with an average of 125 certified beds (as compared to 105 for non-chains not accessing an HIE), and for-profit (64 percent compared to 27 percent). Overall, chain and non-chain CCFs are performing ahead of the national average. In 2016, only 18 percent of CCFs nationally reported using an HIE, nearly 25 percent fewer than CCFs locally (42 percent).[33]

Figure 6. CCFs Accessing Data from an HIE, Chain and Non-Chain, 2014-2016



Telehealth Adoption Rates Dip in Maryland



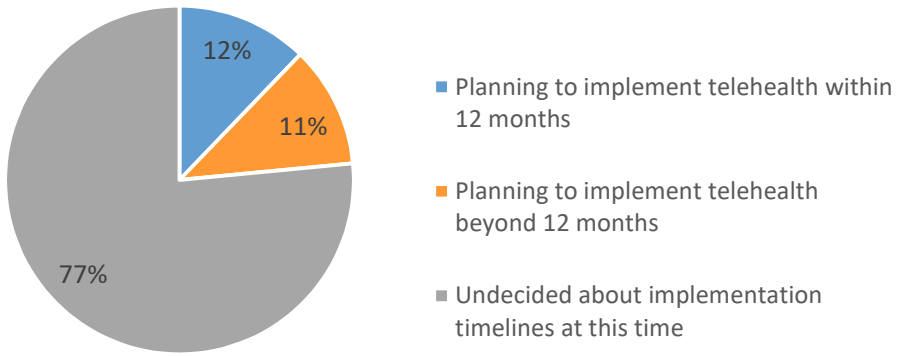
Telehealth adoption has remained low in CCFs statewide (Figure 7). Hospitals report a much higher adoption rate, exceeding 88 percent.[34] While the telehealth adoption rate increased among CCFs in 2015, a four percent decrease occurred in 2016. This is attributed to 11 Genesis CCFs discontinuing their telehealth program.[35]

Telehealth has the potential to improve CCFs' services by providing rapid interventions, such as wound care consultations and geri-psychiatry services, and increasing access to specialty care in rural areas.[36] CCF patients often present with complex, comorbid conditions that could benefit from extended physician oversight[37], especially since few CCFs have physicians available on site 24/7.[38] A study by the Henry J. Kaiser Family Foundation reported that 30 to 67 percent of hospitalizations could be avoided with well-targeted interventions, including telehealth.[39]

Telehealth Implementation Uncertainty Continues

Figure 8. Telehealth Implementation Plans in 2016

N= 213



Consistent with prior years, the vast majority of CCFs remain undecided about implementing telehealth, with only 12 percent indicating implementation plans in 2017. Telehealth adoption requires additional equipment (i.e., telemedicine carts, examination cameras, and telephonic stethoscope)[40,41] and information technology (IT) to support its use,[42] which can be costly.[43] Staff training on new software can be an additional burden.[44, 45] A leading challenge is lack of reimbursement for telehealth services.

Remarks

Maryland CCFs are ahead of the nation in their adoption of health IT[46]; however, they trail other provider types statewide. CCFs report that EHR implementation can be costly, time-consuming, and often requires systems integration and workflow re-design.[47, 48] Limited funding continues to impact the slow growth of EHR adoption. The Health Facilities Association of Maryland and LifeSpan have worked admirably to increase membership awareness of the value of EHRs and HIE. Absent federal policy that mandates CCFs adopt and meaningfully use health IT, diffusion will continue at a slow pace. Over the next year, MHCC plans to work with the two CCF associations to develop initiatives aimed at increasing health IT diffusion among CCFs.

[1] National Transitions of Care Coalition, *Improving Transitions of Care- Findings and Considerations of the 'Vision of the National Transitions of Care Coalition',* September 2010. Available at: ntocc.org/Portals/0/PDF/Resources/NTOCCIssueBriefs.pdf.

[2] The Centers for Medicare & Medicaid Services (CMS) developed EHR Incentive Programs to encourage eligible professionals, hospitals, and critical access hospitals to adopt, implement, and demonstrate meaningful use of certified EHR technology. For more information: cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/Basics.html.

[3] An HIE allows medical professionals and patients to access and securely share medical information electronically across health care settings.

[4] Telehealth consists of the use of a variety of electronic information and telecommunication technologies to support and promote remote medical care and education services.

[5] (2013) N=233; (2014) N=230; (2015) N=230; (2016) N=229.

[6] The Office of the National Coordinator for Health Information Technology (ONC) collaborated with QuintilesIMS to complete a phone survey of 813 CCFs nationwide. Approximately 64 percent of CCFs nationally used an EHR in 2016. Available at: healthit.gov/sites/default/files/electronic-health-record-adoption-and-interoperability-among-u.s.-skilled-nursing-facilities-in-2016.pdf.

[7] Represents compound annual growth rate.

[8] The Maryland Health Care Commission (MHCC) collaborated with CCFs to identify system functions that would constitute basic use. These features include activities of daily living, assessments other than the minimum data set, care plans, demographic information, diagnostic-related information, discharge summaries, vital signs, and laboratory information.

[9] See Appendix A for a detailed representation of basic EHR adoption among chains and non-chains.

[10] EHR Intelligence Adoption & Implementation News. Available at: ehrintelligence.com/news/hospital-ehr-adoption-of-basic-systems-tops-83-cehrt-96

[11] US National Library of Medicine National Institutes of Health, *Impact of Electronic Health Records on Long-Term Care Facilities: Systematic Review,* September 2017. Available at: ncbi.nlm.nih.gov/pmc/articles/PMC5640822/.

[12] The CMS Nursing Home Compare Five Star Quality Rating System evaluates nursing homes based on health inspections, staffing, and quality measures, allowing consumers and their caregivers to select and compare nursing homes. In February 2015, CMS expanded the tool by adding two quality measures, raising performance expectations, adjusting staffing algorithms, and expanding targeted surveys. The July 2016 revision added six new quality measures in order to broaden the amount of quality information available to consumers. More information is available at: cms.gov/medicare/provider-enrollment-and-certification/certificationandcomplianc/fsqrs.html.

[13] Centers for Medicare & Medicaid Services (CMS), *CMS Strengthens Five Star Quality Rating System for Nursing Homes,* February 2015. Available at: CMS Strengthens Five Star Quality Rating System for Nursing Homes. Available at: cms.gov/Newsroom/MediaReleaseDatabase/Press-releases/2015-Press-releases-items/2015-02-20-2.html.

[14] Ranking determined by KLAS Research, a health care IT Data Company that conducts industry and performance reports. KLAS measured responses through a 12-month survey and audit period based on a variety of indicators, including quality of phone/web support, proactive service, overall communication, overall satisfaction, implementation, training, and product functionality. More information is available at: pointclickcare.com/pointclickcare-klas-ranking-2015_2016/.

[15] PointClickCare version 3.7 meets ONC's 2014 voluntary EHR certification criteria. The criteria for this edition include computerized provider order entry, drug-drug and drug-allergy interaction checks, medication list, and quality management system. More information available at: chpl.healthit.gov/#/product/8179.

[16] HealthMEDX, Answers on Demand, and American Data have retired their ONC certifications. More information available at: chpl.healthit.gov/#/search.

[17] PointClickCare, *PointClickCare Upholds #1 Ranking as Long-Term Care Market Leader,* 2017. Available at: pointclickcare.com/pointclickcare-klas-ranking-2015_2016/.

[18] CRISP Connected Providers, *Health Information Exchange Participants*. Available at: crisphealth.org/connected-providers/.

[19] The Maryland Health Care Commission, *Comprehensive Care Facilities Adoption of Health Information Technology,* November 2016. Available at: mhcc.maryland.gov/mhcc/pages/hit/hit/documents/HIT_CCF_Brf_Rpt_20161109.pdf.

[20] The Office of the National Coordinator for Health Information Technology, *Electronic Health Record Adoption and Interoperability among U.S. Skilled Nursing Facilities in 2016,* September 2017. Available at: healthit.gov/sites/default/files/electronic-health-record-adoption-and-interoperability-among-u.s.-skilled-nursing-facilities-in-2016.pdf.

[21] The Maryland Health Care Commission, *CRISP Connectivity – Ambulatory Practices,* November 2017. Available at: mhcc.maryland.gov/mhcc/pages/hit/hit/documents/HIT_CRISPAmbConnBrief_20171130.pdf.

[22] CRISP Tier 2 services allow providers' EHR systems to send data to CRISP to receive real-time alerts when their patient has a hospital encounter. Tier 3 offers more advanced services, including automatic reporting of electronic clinical quality measures for federal and State incentives. More information is available at: mhcc.maryland.gov/mhcc/pages/hit/hit/documents/HIT_CRISPAmbConnBrief_20171130.pdf.

[23] Clinical data includes laboratory tests, medications, and allergies. Data was provided by CRISP and not audited by MHCC.

[24] Black Book Market Research is a health care market research and public opinion research company that conducts surveys across the health care industry. More information is available at: blackbookmarketresearch.com/about-us.

[25] Black Book surveyed 2,068 long-term and post-acute care providers as part of their annual information technology survey. More information is available at: blackbookmarketresearch.newswire.com/news/post-acute-care-the-next-frontier-for-health-systems-under-risk-black-20056199.

[26] AHIMA, *Electronic Health Record Adoption in Long Term Care (2014 update),* November 2014. Available at: library.ahima.org/doc?oid=107519#.WqKonujwaUk.

[27] Maryland HIEs include Adventist HealthCare, Calvert Memorial Hospital, CRISP, Children's IQ Network, Frederick Memorial Hospital, Peninsula Regional Medical Center, PGC PHIN, and Zane Networks.

[28] These HIEs were in use at the time of data collection, and are no longer operating.

[29] A patient query portal enables clinical staff to securely look up and view available patient information.

[30] The Missouri Quality Improvement Initiative (MOQI) conducted interviews of nursing home leaders as part of an external HIE vendor evaluation. More information is available at: ncbi.nlm.nih.gov/pmc/articles/PMC5075234/.

[31] See n. 3, *Supra*.

[32] The Office of the National Coordinator for Health Information Technology, *Health IT in Long-term and Post Acute Care,* March 2013. Available at: healthit.gov/sites/default/files/pdf/HIT_LTPAC_IssueBrief031513.pdf.

[33] ONC collaborated with QuintilesIMS to complete a phone survey of 813 CCFs nationwide. The survey assessed CCFs use of a state or regional health information organization (HIO), referred to as an HIE in this brief. Available at: healthit.gov/sites/default/files/electronic-health-record-adoption-and-interoperability-among-u.s.-skilled-nursing-facilities-in-2016.pdf.

[34] The MHCC collected self-reported data from Hospital Chief Information Officers through an online questionnaire, evaluating implementation of EHR technology. Available at: mhcc.maryland.gov/mhcc/pages/hit/hit/documents/HIT_2015_Hosp_HealthIT_Assess_MD_Rpt_20170127.pdf.

[35] After discontinuing their telehealth program in certain CCFs, Genesis noted challenges with vendor selection and CCF site readiness.

[36] Today's Geriatric Medicine, *Long Term Care: Telehealth, An Untapped Opportunity for Nursing Facilities,* December 2016. Available at: todaysgeriatricmedicine.com/archive/MJ17p28.shtml.

[37] Vituity, *Telehealth in the Skilled Nursing Facility: An Important Tool to Deliver Care,* October 2016. Available at: vituity.com/blog/telehealth-in-the-skilled-nursing-facility-an-important-tool-to-deliver-care.

[38] Modern Healthcare, *UPMC launches telemedicine startup for nursing home patients*, September 2016. Available at: modernhealthcare.com/article/20160923/NEWS/160929943.

[39] The Henry J. Kaiser Family Foundation, *Medicare Spending and Use of Medical Services for Beneficiaries in Nursing Homes and Other Long-Term Care Facilities: A Potential for Achieving Medicare Savings and Improving the Quality of Care,* October 2010. Available at: kaiserfamilyfoundation.files.wordpress.com/2013/01/8109.pdf.

[40] LeadingAge, *Telehealth Brings Promise and Challenges,* March 2017. Available at: leadingage.org/magazine/march-april-2017/Telehealth_Brings_Promise_and_Challenges_V7N2.

[41] AMD Global Medicine, *Telemedicine Medical Devices*. Available at : amdtelemedicine.com/telemedicine-equipment/medical-devices.html.

[42] McKnight's Long-Term Care News, *Telemedicine in LTC: Help for patients with multiple chronic conditions,* April 2017. Available at: mcknights.com/marketplace/telemedicine-in-ltc-help-for-patients-with-multiple-chronic-conditions/article/649378/.

[43] LeRouge, C., & Garfield, M. (2013). Crossing the Telemedicine Chasm: Have the U.S. Barriers to Widespread Adoption of Telemedicine Been Significantly Reduced? *International Journal of Environmental Research and Public Health,* 10(12), 6472-6484.

[44] As of 2014, the State reported only 59 percent of hours were worked by direct care staff employed for two or more years at the nursing home, as compared to 64 percent nationally. More information is available at: mhcc.maryland.gov/consumerinfo/longtermcare/Nursing_Home/Documents/StaffingInformation.pdf.

[45] Telligen Health Information Technology Regional Extension Center, *Telehealth Start-Up and Resource Guide*, October 2014. Available at: healthit.gov/playbook/pdf/telehealth-startup-and-resource-guide.pdf.

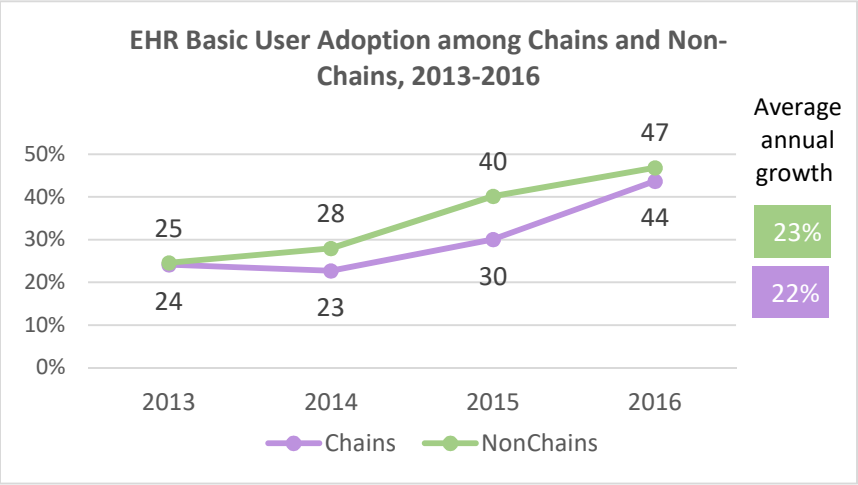
[46] CCF EHR adoption rate: Maryland (88 percent); Nationwide (64 percent). More information available at: healthit.gov/sites/default/files/electronic-health-record-adoption-and-interoperability-among-u.s.-skilled-nursing-facilities-in-2016.pdf.

[47] Office Practicum, *6 common challenges in EHR implementation,* February 2016. Available at: officepracticum.com/2016/02/22/6-common-challenges-in-ehr-implementation/.

[48] McKnight's Long-Term Care News, *EHR usage still too slow,* January 2017. Available at: mcknights.com/news/ehr-usage-still-too-slow/article/629757/.

Appendix A: EHR Basic User Adoption among Chains and Non-Chains

The figure details EHR basic user growth among chain and non-chain CCFs from 2013 to 2016.



Appendix B: EHR Adoption

The table below depicts the number of CCFs that reported EHR and basic use adoption from 2013 to 2016, and the compound annual growth rate (CAGR) for that time period.

Growth in EHR Adoption					
	2013	2014	2015	2016	CAGR
EHR Adoption	168	183	196	203	7%
Basic Use	56	58	80	104	16%

David Sharp, Ph.D.

Director

Center for Health Information Technology and Innovative Care Delivery

4160 Patterson Avenue

Baltimore, MD 21215

410-764-3460

www.mhcc.maryland.gov